

Attorney Docket No.: KUZ-0018
Inventors: Yasukochi et al.
Serial No.: 10/502,412
Filing Date: July 23, 2004
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This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of the claims:

Claim 1-4 (canceled)

Claim 5 (previously presented): The production process according to Claim 27 or 28, wherein the crosslinking functional group is a hydroxyl group, and the crosslinking agent is boric acid.

Claim 6 (canceled)

Claim 7 (currently amended): A medical patch comprising a pressure-sensitive adhesive shaped product produced by the process according to Claim 27 or 28, ~~said pressure-sensitive adhesive shaped product containing substantially no water.~~

Claim 8-9 (canceled)

Claim 10 (previously presented): The production process according to claim 27, wherein the crosslinking is carried out at 60°C to 150°C.

Claim 11 (previously presented): The production process according to claim 10, wherein the crosslinking is carried out at 100°C to 150°C.

Claim 12 (previously presented): The production process according to claim 27, wherein the crosslinking is carried out for approximately 15 minutes to one hour.

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Claims 13-15 (canceled)

Claim 16 (currently amended): The production process according to claim 27 or 28, wherein the crosslinkable monomer unit is selected from hydroxyl group-containing acrylate monomers and hydroxyl-group containing methacrylate monomers.

Claim 17 (previously presented): The production process according to claim 16 wherein the hydroxyl group-containing acrylate monomer is selected from 2-hydroxyethyl acrylate, 3-hydroxypropyl acrylate and 4-hydroxybutyl acrylate.

Claim 18 (previously presented): The production process according to claim 16 wherein the hydroxyl group-containing methacrylate monomer is selected from 2-hydroxyethyl methacrylate, 3-hydroxypropyl methacrylate and 4-hydroxybutyl methacrylate.

Claims 19-20 (canceled)

Claim 21 (previously presented): The production process according to claim 28 wherein the crosslinking is carried out at 60°C to 150°C.

Claim 22 (previously presented): The production process according to claim 21 wherein the crosslinking is carried out at 100°C to 150°C.

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Claim 23 (previously presented): The production process according to claim 28 wherein the crosslinking is carried out for approximately 15 minutes to one hour.

Claim 24-26 (canceled)

Claim 27 (currently amended): A process for the production of a medical patch, said process comprising:

(a) dissolving in a lower alcohol:

(i) ~~a hormonal drug selected from estradiol and norethisterone acetate~~ one or more drugs; and

(ii) an acrylic ~~polymer~~ copolymer or a methacrylic ~~polymer~~ copolymer comprising one or more crosslinkable acrylic or methacrylic monomer units having at least one hydroxyl group and/or carboxyl group ~~in a crosslinkable monomer unit~~ and one or more other monomer units containing at least 2-ethylhexyl acrylate and/or vinylpyrrolidone;

(b) adding to the solution of step (a) one or more crosslinking agents selected from the group consisting of metal alcoholates, boric acid, borate and borate ester;

(c) spreading the mixture of step (b) on a film; and

(d) thermally crosslinking the polymer of (ii) with the one or more crosslinking agents of step (b) either simultaneously with or followed by laminating to a support, collectively thereby to form the medical patch.

Claim 28 (currently amended): A process for the production of a medical patch, said process comprising:

(a) dissolving in a lower alcohol:

(i) ~~a drug selected from estradiol and norethisterone acetate~~ one or more drugs; and

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(ii) one or more crosslinking agents selected from the group consisting of metal alcoholates, boric acid, borate and borate ester;

(b) adding to the solution of step (a) an acrylic ~~polymer~~ copolymer or a methacrylic ~~polymer~~ copolymer having one or more crosslinkable acrylic or methacrylic monomer units having at least one hydroxyl group and/or carboxyl group in a crosslinkable monomer unit and one or more other monomer units containing at least 2-ethylhexyl acrylate and/or vinylpyrrolidone to the solution;

(c) spreading the mixture of step (b) on a film; and

(d) thermally crosslinking the polymer of step (b) with the one or more crosslinking agents of (ii) either simultaneously with or followed by laminating to a support, collectively thereby to form the medical patch.

Claim 29 (currently amended): The production process according to claim 27 or 28, wherein the ~~polymer~~ copolymer contains N-vinyl-2-pyrrolidone as a monomer unit.

Claim 30 (new): The production process according to claim 27 or 28, wherein the drug is a hormonal drug selected from estradiol or norethisterone acetate.

Claim 31 (new): The production process according to claim 27 or 28, wherein the lower alcohol is methanol, ethanol, 1-propanol, 2-propanol or 1-butanol.

Claim 32 (new): The medical patch according to claim 7, wherein the pressure sensitive adhesive shaped product contains substantially no water.

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Claim 33 (new): The medical patch according to claim 7, wherein the patch has the pressure-sensitive adhesive power of from 102 gF to 267 gF after storage at 65°C for 48 hours.